SINONASAL SCHWANNOMA: A RARE CAUSE OF NASAL OBSTRUCTION: A CASE REPORT
Prakash S. B1, Nishan2, Geetha3

HOW TO CITE THIS ARTICLE:

ABSTRACT: Schwannoma (neurilemmoma) is a slow growing benign neoplasm of neuroectodermal origin arising from Schwann cells in the peripheral nerve sheath. It can arise anywhere in the body, but is most commonly observed in the head and neck. This region accounts for 25–45% of all schwannoma. Less than 4% of these tumors are found in the nose and paranasal sinuses and there has been little information reported concerning the presentation and surgical management of sinonasal schwannomas. The purpose of this study was to analyze the clinical presentation, treatment, and long-term outcomes of sinonasal schwannomas.

KEYWORDS: Schwannoma, sinonasal tract, benign.

INTRODUCTION: Schwannomas are benign, slow growing encapsulated tumors arising from the Schwann cells of the nerve sheath which was originally described by Stout in 1935. Batsakis described it more accurately as neurilemmomas, referring to the cells of origin. Head and Neck is the most common site for this tumor and Acoustic nerve is most frequently affected. Other sites commonly affected are scalp, oral cavity, pharynx, larynx, parotid gland, middle ear and sinonasal tract.

Sinonasal schwannomas represents less than 4% of head and neck schwannomas. Most commonly affected age groups is 25 to 55 years. Males and females are affected equally.

It can present as nasal obstruction, discharge, epistaxis, anosmia, and facial swelling. Because these tumors are located in a cavity, they are able to grow silently to a substantial size before diagnosis.

The most common affected area is the Ethmoid sinus, followed by the Maxillary sinus, and Sphenoid sinus. Schwannoma arising from the nasal septum is extremely rare.

CASE SUMMARY: A 55 year-old lady presented with history of nasal obstruction on right side since 2 years. Insidious in onset and gradually progressed to present stage of complete nasal obstruction on right side. There was history of mucoid discharge from the same side since 2 months, no history of trauma, epistaxis, pain, excessive sneezing, nasal surgery, diplopia or proptosis. She also did not have any other systemic complaints.

On examination external nasal appearance was normal. On anterior rhinoscopy right nasal cavity was completely filled with pale, smooth, glistening mass which can be probed all around, insensitive and does not bleed on touch. Mass was displacing the septum to left side.

Posterior rhinoscopy showed same mass occupying the right choana and it was extending into nasopharynx. Examinations of the throat, ears and neck did not reveal any abnormalities.
CT scan of nose and paranasal sinuses revealed a large soft tissue mass completely filling the right nasal cavity which showed mild enhancement on contrast. Mass was filling entire ethmoid and choana on right side and pushing the lateral nasal wall more laterally on right side with complete obstruction of right osteomeatal complex. The septum was grossly pushed to left side. There were no features of any bony erosion and involvement of orbit on the affected side. Nasopharynx was free. The differential diagnosis included benign nasal polyp, inverted papilloma and fungal sinusitis, malignancy and other rare tumors like schwannoma.

Subsequently a biopsy was performed. The biopsy showed pseudostratified nasal epithelium and underlying polypoid tumor mass composed of benign spindle cells arranged in hypo & hypercellular areas. 40X shows Verocay bodies, palisading arrangement of benign spindle cells in the hypercellular areas. There was no mitotic activity. The tumor cells were strongly S100 positive.
A diagnosis of nasal schwannoma was made and the tumor was excised under endoscopic guidance. The large choanal part was removed via oral cavity because of its large size by placing the patient to tonsillectomy position. Early follow up showed no signs of local recurrence of the tumor.

Fig. 3: H & E; 10x: Shows pseudostratified nasal epithelium and underlying polypoid tumor mass of benign spindle cells arranged in hypo & hypercellular areas

Fig. 4: H & E; 40X: Shows verocay bodies, palisading arrangement of benign spindle cells in the hypercellular areas

Fig. 5: Macroscopically the tumour is well demarcated, grayish to yellowish in colour, fleshy and shiny on the surface
DISCUSSION: Sinonasal schwannomas are thought to originate primarily from the ophthalmic and maxillary branches of trigeminal nerve, but could also arise from sympathetic or parasympathetic fibres from the carotid plexus or sphenopalatine ganglion. In our case tumor appears to be arising from the sinonasal mucosa. Schwannomas are usually described as being encapsulated and is assumed to derive from the perineurium of the nerve of origin.

Since the sinuses are largely comprised of air-filled spaces and cavities, the tumor can grow to a considerable size before symptoms occur. When the patient finally complains of symptoms, tumor has typically reached its maximum within the sinuses and exerts pressure on the surrounding tissue, causing impaired vision or symptoms of intracranial extension.

The differential diagnosis of nasal cavity masses includes nasal polyps, mucocele, gliomas, papilloma, neurofibroma, various sarcomas, carcinomas and lymphomas.

Schwannomas were classified into two types; Antoni type A shows higher cellular density and content of Verocay body. Antoni type B has lower cellular density. Neurofibroma is one of the close differential diagnosis for schwannoma. It is also a benign neoplasm originated from nerve but is microscopically different. Neurofibromas may be multiple when associated with von Recklinghausen’s disease (neurofibromatosis). Nerve fibers can be seen passing through the neurofibromatosis. Risk of malignant degeneration is rarely seen in schwannomas but 8% in neurofibromatosis. There was no familial history or clinical findings of neurofibromatosis in the present case.

The most common complaint of schwannomas in the nasal cavity is nasal obstruction. Epistaxis, rhinorrhea, hyposmia, facial swelling, headache, epiphora and serous otitis media are other complaints. Sphenoid sinus schwannomas may lead to cranial nerve palsy. Intracranial extension has also been reported. Although olfactory nerve is covered by glial cells, it cannot give rise to nerve sheath tumor.

Appropriate surgical resection is curative for schwannomas. Recurrence is rare after total removal (23%). These tumors are radio-resistant and chemotherapy is not useful. A careful preoperative clinical and radiological examination is essential. CT and magnetic resonance imaging scans are useful for tumor extension and choosing the type of surgical resection.

REFERENCES:

AUTHORS:
1. Prakash S. B.
2. Nishan
3. Geetha

PARTICULARS OF CONTRIBUTORS:
1. Assistant Professor, Department of ENT, MMC & RI, Mysore.
2. Post Graduate, Department of ENT, MMC & RI, Mysore.
3. Post Graduate, Department of ENT, MMC & RI, Mysore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Prakash S. B,
Door No. 136,
Vijayanagara, 4th stage,
3rd Phase, Mysore – 570018.
E-mail: prakashsb.mmc@gmail.com

Date of Submission: 14/02/2014.
Date of Peer Review: 15/02/2014.
Date of Acceptance: 03/03/2014.
Date of Publishing: 19/03/2014.